

TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY Click Here To View	i
RECOMMENDATIONS	ii
INTRODUCTION	1
BACKGROUND	2
• <i>Estimating Procedures And Standards</i>	2
• <i>Types Of Estimates</i>	3
• <i>Engineer's Estimate</i>	3
• <i>Contract Change Order Estimate</i>	4
• <i>Program Accomplishments</i>	5
SCOPE AND METHODOLOGY	6
FINDING I	
ADDITIONAL PROCEDURES WOULD HELP	
ENSURE COMPLIANCE WITH THE DEPARTMENT	
OF PUBLIC WORKS' COST ESTIMATING REQUIREMENTS	8
• <i>Department Of Defense Federal Acquisition</i>	
<i>Regulation Supplement On Estimating Systems</i>	8
• <i>Department Of Public Works' Cost Estimating Procedure</i>	10
• <i>Review Of Construction Project Files</i>	11
• <i>Additional Procedures Are Needed</i>	13
CONCLUSION	14
RECOMMENDATIONS	14
FINDING II	
THE DEPARTMENT OF PUBLIC WORKS' CONTRACT	
CHANGE ORDER PROCESS CAN BE IMPROVED	15
• <i>The Department Of Public Works' Procedures</i>	
<i>For Handling Contract Change Orders</i>	15
• <i>Documentation Was Lacking For 9 Of 13 Files</i>	
<i>For Construction Projects Requiring Contract Change Orders</i>	17

<ul style="list-style-type: none"> • <i>The Department Should Have Anticipated 17 Of 137 Change Order Items Reviewed</i> • <i>Improvements Are Needed</i> 	19
CONCLUSION	21
RECOMMENDATIONS	21
ADMINISTRATION'S RESPONSE Click Here To View	23
APPENDIX A Click Here To View DEFINITIONS OF PRIORITY 1, 2, AND 3 AUDIT RECOMMENDATIONS	A-1
APPENDIX B Click Here To View MEMORANDUM FROM DIRECTOR OF PUBLIC WORKS TO CITY AUDITOR REGARDING COST ESTIMATING AUDIT	B-1
APPENDIX C-1 Click Here To View CONSTRUCTION CONTRACTS SELECTED FOR THE AUDIT SAMPLE FISCAL YEAR 1989-90	C-1
APPENDIX C-2 Click Here To View CHANGE ORDERS RELATED TO CONSTRUCTION CONTRACTS SELECTED FOR THE AUDIT SAMPLE FISCAL YEAR 1989-90	C-2
APPENDIX D Click Here To View REVIEW OF DOCUMENTATION REQUIRED ACCORDING TO CONSTRUCTION ESTIMATING PROCEDURES	D-1
APPENDIX E Click Here To View REVIEW OF CONTRACT CHANGE ORDER DOCUMENTATION	E-1
APPENDIX F Click Here To View CONTRACT CHANGES THAT SHOULD HAVE BEEN ANTICIPATED	F-1

INTRODUCTION

In accordance with the City Auditor's 1991-92 Audit Workplan, we have reviewed the Department of Public Works' cost estimating process. We conducted this audit in accordance with generally accepted government auditing standards and limited our work to those areas specified in the Scope and Methodology section of this report.

The Office of the City Auditor first started this audit in August 1989. After completing the Risk Assessment phase in October 1989, the Office deferred the audit because of staff changes and shifts in audit assignment priorities. The Office restarted the audit in May 1990, by which time the Department of Public Works had developed its Cost Estimating Procedures and established controls to mitigate the threats the City Auditor had previously identified.

BACKGROUND

The mission of the Department of Public Works (Department) states that the Department

...is organized to program, plan, design and construct a variety of public facilities...

An integral part of the planning, design, and construction of each capital project is cost estimating. Cost estimating is not a precise science, and many variables affect it. Such variables include market trends, availability of skilled labor and supply sources, location and size of project, seasonal variations, and weather. However, the cost estimator can achieve a high degree of accuracy with experience, up-to-date research, reliable references on cost data, and sound knowledge of the project itself. By conducting management studies, training staff, and establishing procedures, the Department has recognized the importance of reliable cost estimates.

Estimating Procedures And Standards

In 1987, the City commissioned Black & Veatch, Engineers-Architects, to conduct a management audit of the Department of Public Works. As a result of this audit, the Department implemented organizational changes, added staff, and conducted training to make improvements in several functional areas. In the area of cost estimating in particular, the Department identified the need for strengthened capabilities. Accordingly, the Department has developed written procedures for construction estimating. The procedures require the Department to follow estimation and documentation standards that correspond to federal standards on estimating

systems and are in accordance with generally accepted engineering principles and industry standards.

Types Of Estimates

In accordance with its written estimating procedures, the Department prepares five types of estimates during the course of planning, designing, and constructing capital projects. These are the Program, Budget, Preliminary, Engineer's, and Change Order estimates. The difference between them is in the accuracy of the estimate and the detail of the scope of the work on which the estimate is based. To a large extent, the ability to prepare a reasonable estimate is a function of the level of detail of the information available when preparing the estimate. The level of detail available is greatest for the Engineer's Estimate and the Contract Change Order Estimate. This audit focused on these two types of estimates.

Engineer's Estimate

The Department prepares the Engineer's Estimate when final design is complete. The Department uses this estimate for verification of compatibility with the project's budget and to determine the reasonableness of contractor bids. The engineer uses the final design documents and plans and specifications in preparing the Engineer's Estimates and develops costs using unit prices based on quantity takeoffs¹ from final design plans and specifications. He or she may use a computerized spreadsheet program for this purpose. Unit prices are obtained from various sources. These sources

¹ An itemized list of the quantities of materials and labor required for a project, with each item priced and extended, which is used in preparing a bid on the project.

include bid summaries for prior projects, estimating guides, engineering periodicals, State of California labor and equipment rental rates publications, contacts with manufacturers, vendors, and other jurisdictions, consultation with other engineers, and professional judgment based on personal experience. The engineer generally increases the estimate 5 to 15 percent for contingencies and an additional 10 percent or more for engineering and inspection, depending on the size of the project. After the engineer has prepared or revised the estimate, his or her supervisor and/or manager reviews it.

Contract Change Order Estimate

The Department prepares the Contract Change Order Estimate to support a detailed proposal to the contractor for a change in the contemplated work of the construction contract after the work is underway. As in the Engineer's Estimate, the Department develops the Contract Change Order Estimate by using unit prices, extension of bid/pay quantities, manufacturers' data, and estimating handbooks. The engineer includes cost estimates for overhead, profit, general markup, and other items as described in the project specifications. The Department uses this estimate to determine the reasonableness of quotations the contractor submits for the changed work and to negotiate with the contractor to determine prices for the contemplated change. Division Chiefs approve proposed contract cost changes of up to \$10,000; the Division Chief and the Director of Public Works review and approve Contract Change Orders between \$10,000 and \$20,000; and the City Council approves Contract Change Orders over \$20,000.

Program Accomplishments

In Appendix B, the Department outlines its major accomplishments relating to construction estimating. According to the Director of Public Works, the Department:

- Wrote a Cost Estimating Policy that presented the basis and purpose of the different types of estimates the Department prepares. This policy provides a basis to ensure uniformity and accuracy in cost estimates.
- Will establish cost estimating training as an important module of the Department's training program for 1991-92. The Department has identified a consultant and is reviewing a scope of services to train Department project managers on how to prepare and review Engineer's Estimates.
- Is working on a pilot process with the Storm Drain and Sanitary Sewer Programs to automate the bid summaries for projects which are bid. This automated database, which will run on personal computers, will be utilized to prepare project estimates for proposed projects in the Capital Improvement Program and Engineer's Estimates for approved projects.
- Recently revised its Contract Change Order Policy and Procedure, wherein proper estimating of proposed change order costs is an integral part of the document.

SCOPE AND METHODOLOGY

We reviewed the Department of Public Works' compliance with estimating documentation requirements for construction contracts and Contract Change Orders. We limited our review to the documentation required for the Engineer's Estimate and the Contract Change Order Estimate.

During 1989-90, the City Council approved 127 construction contracts that the Department administered. These construction contracts amounted to approximately \$27 million. Of these 127 contracts, we selected 15 for our review of the Engineer's Estimates and related documentation. The 15 contracts selected for our sample totaled approximately \$16.6 million. Appendix C-1 summarizes the construction contracts we selected for our audit sample.

Additionally, we reviewed the Contract Change Order Estimates related to the 15 construction contracts we selected. Of the 15 construction contracts we selected, 13 required change orders. For these 13 construction contracts, there were 56 change orders totaling approximately \$508,000. Appendix C-2 summarizes the Contract Change Order Estimates we selected for our audit sample.

In evaluating the documentation for cost estimates, we reviewed written procedures, interviewed Department personnel, contacted other jurisdictions, verified the location of cost estimating reference sources in the

Department, and sampled project files. During the course of the audit, we discussed our findings with Department representatives.

We also reviewed the Department's use of the Project Accounting Control system (PAC II). PAC II is a project management control system that the City acquired in 1984 to provide management information for project planning, scheduling, and monitoring. To date, the Department has not fully implemented the system. However, when fully implemented, the system's cost accounting and project management features can significantly contribute to the Department's cost estimating capability and help the Department in comparing projected to actual costs. Because of the relevance of the PAC II system to capital project management in general, we will include the results of our review of the Department's use of PAC II in our Capital Projects Management Audit which we expect to complete during 1991-92.

FINDING I
ADDITIONAL PROCEDURES WOULD HELP
ENSURE COMPLIANCE WITH THE DEPARTMENT
OF PUBLIC WORKS' COST ESTIMATING REQUIREMENTS

In its Federal Acquisition Regulation Supplement on Estimating Systems, the United States Department of Defense identifies the 15 characteristics of an adequate estimating system. In addition, the City of San Jose's Department of Public Works (Department) has developed Construction Cost Estimating Procedures that require proper documentation of project scopes, source and budget information, engineers' estimates, analyses of bids, bid summaries, contingency and engineering and inspection cost provisions, reviews and approvals, and other documentation. Our review of 15 construction project files revealed that required documentation was missing for 6 projects. By emphasizing the need for compliance with its Construction Cost Estimating Procedures and establishing a system to monitor such compliance, the Department will have added assurance that its project files (1) are adequately documented, (2) contain complete historical and auditable data for future project comparisons, and (3) will sustain the City's position should any subsequent disputes or claims arise.

Department Of Defense Federal Acquisition
Regulation Supplement On Estimating Systems

An effective estimating system provides for the use of appropriate source data, utilizes sound estimating techniques and appropriate judgment, maintains a consistent approach, and adheres to established policies and procedures. To guide its employees and contractors in preparing reliable cost estimates, the United States Department of Defense has identified the

15 attributes or standards of an effective estimating system and codified them in the Federal Acquisition Regulations Supplement. According to the federal regulations, an effective estimating system does the following:

1. Establishes clear responsibility for preparation, review, and approval of cost estimates;
2. Provides a written description of the organization and duties of personnel responsible for preparing, reviewing, and approving cost estimates;
3. Ensures that relevant personnel have sufficient training, experience, and guidance to perform estimating tasks in accordance with established procedures;
4. Identifies the sources of data and the estimating methods and rationale used in developing cost estimates;
5. Provides for appropriate supervision throughout the estimating process;
6. Provides for consistent application of estimating techniques;
7. Provides for detection and prompt correction of errors;
8. Protects against cost duplication and omissions;
9. Provides for the use of historical experience where appropriate;
10. Requires the use of appropriate analytical methods;
11. Integrates information available from other management systems as appropriate;
12. Requires management review, including verification that estimates are in compliance with established policies and procedures;

13. Provides for internal review of and accountability for the adequacy of the estimating system, including the comparison of projected results to actual results and an analysis of any differences;
14. Provides procedures to update cost estimates in a timely manner throughout the negotiation process; and
15. Addresses responsibility for the review and analysis of the reasonableness of costs of materials, equipment, and all costs associated with project completion.

Department Of Public Works' Cost Estimating Procedure

In September 1989, the Department issued its Construction Estimating Procedure. The procedure's goal is to establish a systematic approach that will provide uniformity, reliability, and accuracy to the preparation of cost estimates. In general, the procedure requires the estimator to do the following:

- Determine and document the basis for the estimate;
- Determine the projected start date of construction;
- Prepare the estimate--determine the quantities and items of work to be estimated and their unit prices and document the quantity takeoffs² and unit prices;
- Submit the estimate for review and approval to appropriate individuals dependent on the type of estimate prepared;
- Transit and/or utilize the estimate for its intended purpose; and
- File the estimate in the project file and the Division Historical File.

² An itemized list of the quantities of materials and labor required for a project, with each item priced and extended, which is used in preparing a bid on the project.

In addition, on August 20, 1991, the Department provided the City Auditor's Office with a Construction Estimating Procedure that was dated March 29, 1991.

Review Of Construction Project Files

We reviewed Department construction project files for compliance with the federal cost estimating standards and the Department's Construction Estimating Procedure. During 1989-90, the City Council approved 127 construction contracts that the Department administered. These construction contracts amounted to approximately \$27 million. Of these 127 contracts, we selected 15 for our review of the Engineer's Estimates and related documentation. The 15 contracts selected for our sample totaled approximately \$16.6 million. Appendix C-1 describes the 15 construction projects. The Architectural Engineering Division of the Department administered 9 of the 15 projects, and the Design and Construction Division administered the other 6.

In reviewing the construction project files, we looked for evidence and documentation that indicated compliance with the cost estimating standards and the Department's procedure. The minimum documentation necessary to conform with the standards and procedure consists of the following:

1. Transmittal Memorandum for Approval of Plans and Specifications on which the final Construction Estimate is based;

2. Transmittal Memorandum for Report on Bids to Council containing project scope, source and budget information, and analysis of bids;
3. Transmittal Memorandum Cover Sheet, signed and dated by appropriate personnel to indicate review and approval of the information these memoranda contain;
4. Bid Summary; and
5. Engineer's Estimate, including percentage increases for Contingency and Engineering and Inspection costs.

Our review of the 15 construction project files revealed that required documentation was missing for 6 projects. For those six projects, one lacked the Report on Bids memorandum and the Engineer's Estimate, a second was missing the Report on Bids memorandum, another lacked the Engineer's Estimate, and two projects lacked Bid Summaries. A sixth project was missing the Approval of Plans and Specifications and Report on Bids to Council memoranda, a Bid Summary, and an Engineer's Estimate. Appendix D summarizes our findings.

It should be noted that on August 20, 1991, staff from the City Auditor's Office, the Department, and the City Manager's Office met to discuss a preliminary draft of the City Auditor's report on the cost estimating process. At that meeting, the Department stated that some of the missing documents noted in Appendix D were, in fact, available in the Department, albeit not in the project files the Department provided to the City Auditor's Office or in other files audit staff requested during the audit. In the interest of fairness and complete disclosure, the City Auditor's Office afforded the Department the opportunity to produce the missing documents.

On August 28, 1991, the Department was able to produce 8 of the 16 missing documents shown in Appendix D.

Additional Procedures Are Needed

Our review indicated that, in general, the Department's Construction Estimating Procedure conformed with generally accepted cost estimating standards. However, the Department can improve its cost estimating practices by emphasizing to the staff the need for compliance with the established procedures.

Currently, the Department designates an engineer as the project manager of a construction project. It is the project manager's responsibility to ensure that the project staff follows departmental procedures so that the file contains all required documentation. The majority of the construction projects we reviewed showed all the required documentation. However, as discussed above, some of the files lacked certain required items. Complete documentation is essential to provide the City with documentary evidence should a subsequent dispute arise. Such documentation is also useful to effectively monitor the project and to provide data for the comparison of projected to actual costs. So that the Department can ascertain that construction project estimates are fully documented, the Department should establish a system to monitor compliance with its Cost Estimating Procedure.

CONCLUSION

Our review of 15 construction project files revealed that required documentation was missing for 6 projects. By emphasizing the need for compliance with its Construction Cost Estimating Procedure and establishing a system to monitor such compliance, the Department will have added assurance that its project files (1) are adequately documented, (2) contain complete historical and auditable data for future project comparisons, and (3) will sustain the City's position should any subsequent disputes or claims arise.

RECOMMENDATIONS

We recommend that the Department of Public Works take the following actions:

Recommendation #1

Formally communicate to its staff the need for compliance with the Department's Cost Estimating Procedure. (Priority 3)

Recommendation #2

Establish a system to monitor compliance with the Department's Cost Estimating Procedure. (Priority 3)

FINDING II

THE DEPARTMENT OF PUBLIC WORKS' CONTRACT CHANGE ORDER PROCESS CAN BE IMPROVED

The City of San Jose's Department of Public Works (Department) has developed procedures for administering Contract Change Orders for construction projects. Our review of 13 construction projects for which Contract Change Orders were necessary revealed some noncompliances with the Department's procedures for Contract Change Orders for 9 of the projects. In addition, we found that of the 56 Contract Change Orders required for these 13 projects, the Department should have anticipated the work involved for 17 change order items, thereby making the change orders unnecessary. By emphasizing the need for compliance with its Contract Change Order Procedure and for thorough reviews of plans and specifications and adopting throughout the Department the two standard change order forms the Design and Construction Division uses, the Department will have added assurance of compliance with its procedures. Furthermore, the accuracy of engineers' estimates may improve.

The Department Of Public Works' Procedures For Handling Contract Change Orders

Contract Change Orders are modifications of an original contract that effectively change the provisions of the contract without changing the scope. They may include changes in specifications or design, method or manner of performance, facilities, equipment, materials, site, and the period for completing the work. A Contract Change Order (CCO) is the legal document binding all parties to an agreed change in the contract. A CCO

consists of one or more items. In addition, a CCO may result in a reduction of contract price.

In December 1987, the Department issued its written procedures for CCOs. The objective of these procedures is to standardize the documentation, justification, approval, and monitoring of contract changes. A summary of the procedures follows:

1. Contract change requests may originate from other agencies, other departments, department management, the project engineer, the project inspector, or the contractor. The project manager is responsible for documenting the contract change. In the CCO, the project manager describes the specifications involved in the change, the work to be done, and any time and price adjustments. The CCO must include supporting documentation from the contractors and a summary of negotiations from the project manager showing the factors associated with the CCO. The minimum factors to be considered are labor, materials, equipment, time extension, and schedule impacts.
2. The CCO's transmittal memorandum explains the requested change. The memorandum must show the amount of the Director's change order authority for the project, the previous Director-approved change orders, the balance of the Director's authority remaining on the project, and the council-approved change orders to date. The Contract Change Order Procedure specifies that the transmittal memorandum *"must be complete enough so that someone unfamiliar with the project can determine the justification for the work and reasonableness of the compensation and adjustments of contract time."*
3. The Contract Change Order Procedure describes the various approval levels for time extensions and price changes. The CCO must show the appropriate written authorization(s) for the contract change.

4. The project manager monitors the cumulative change orders on a project by completing a Contract Change Order Log. With this log, the project manager keeps track of the required contract change authorizations and ascertains that the contract changes on the project do not exceed the Director's maximum aggregate change order amount or the time extension limits.

In addition, on August 20, 1991, the Department provided the City Auditor's Office with a Construction Change Order Policy and Procedure that was dated May 1, 1991.

**Documentation Was Lacking For 9 Of 13 Files
For Construction Projects Requiring Contract Change Orders**

Our review of Department construction project files indicated that required CCO documentation was lacking or inadequate for some construction projects. We reviewed 15 project files in the Architectural Engineering and Design and Construction Divisions for compliance with the Department's Contract Change Order Procedure. Of the 15 construction projects in our sample, 13 required at least one contract change. In all, these 13 construction projects required 56 CCOs. Our review indicated that documentation was lacking or inadequate for 31 of the 56 CCOs we tested. These 31 CCOs pertained to 9 of the 13 construction projects we reviewed.

Appendix E describes our findings in the review of CCO files. In general, we found the following:

1. Twenty-one CCOs lacked complete transmittal memoranda. Specifically, the Contract Change Order Procedure requires the transmittal memoranda to "*show the amount of the Director's change order authority for the project, the previous Director-approved change orders, the balance of the Director's authority*

remaining on the project and the Council-approved change orders to date.” These 21 memoranda did not provide this information. Without such information, the person responsible for approving the CCO cannot ascertain that the cumulative contract changes on the project do not exceed the Director’s maximum aggregate change order amount.

2. Eighteen CCOs were not supported by Contract Change Order Estimates. The Department uses this estimate to determine the reasonableness of quotations the contractor submits and to negotiate with the contractor to agree upon prices for the contemplated change.
3. Nineteen CCOs included contractor price quotations that were accepted in the change order; however, the files lacked sufficient evidence of Department verification or negotiation. In addition, 8 of these 19 CCOs were not supported by Contract Change Order Estimates.
4. Thirty-four CCOs were not supported by a Contract Change Order Log. This log shows the contract amount, the Director’s maximum aggregate change order amount, the authorization for and an abbreviated description of the change order, the change order amount and the change order funds remaining. With this log, the project manager keeps track of the required contract change authorizations and ascertains that the contract changes on the project do not exceed the Director’s maximum aggregate change order amount or the time extension limits.
5. Thirty-nine CCOs did not include a description of and justification for the change as well as a summary of negotiations with the contractor. The departmental procedures specify that CCO documentation “*must be complete enough so that someone unfamiliar with the project can determine the justification for the work and reasonableness of the compensation and adjustments of contract time.*”

As was noted earlier, on August 20, 1991, staff from the City Auditor's Office, the Department, and the City Manager's Office met to discuss a preliminary draft of the City Auditor's report on the Cost Estimating Process. At that meeting, the Department stated that some of the missing documents noted in Appendix E were, in fact, available in the Department, albeit not in the project files the Department provided to the City Auditor's Office or in other files audit staff requested during the audit. In the interest of fairness and complete disclosure, the City Auditor's Office afforded the Department the opportunity to produce the missing documents. On August 28, 1991, the Department was able to produce 11 of the 130 missing documents shown in Appendix E.

**The Department Should Have Anticipated
17 Of 137 Change Order Items Reviewed**

Contract changes occur for various reasons. Contract change requests may originate from other agencies, other departments, Department management, the project engineer, the project inspector, or the contractor. While the conditions leading to some change orders could not have been anticipated, others should have been. The most common reasons for unanticipated CCOs include additional input/requests from departments and/or constituents, unforeseen situations discovered during the course of construction, and delays due to weather or seasonal conditions. The project management staff should be able to anticipate those CCOs that result from omissions of bid items from plans or contracts and incorrect or missing specifications for some bid items.

Our review revealed that 17 of 137 change order items on 56 CCOs were the result of mistakes or omissions in the plans and specifications or other contract documents and that, therefore, the Department should have anticipated them. The total amount of these 137 change order items was \$508,047. The cost of the 17 change order items that the Department should have anticipated was \$120,407 (24 percent).

Appendix F summarizes the 17 change order items the Department should have anticipated. If Department personnel had been following procedures for proper checking and for review and approval of plans and specifications and other contract documents, conditions resulting in 24% of the amount of CCOs would have been detected, thereby making the CCOs unnecessary. In our opinion, the Department should provide additional procedures to help ensure that its staff thoroughly reviews plans and specifications in order to avoid CCOs that the Department should have anticipated.

Improvements Are Needed

Departmental procedures require that the project files include a description of and justification for CCOs as well as a summary of negotiations with the contractor. As discussed above, our review indicated that many of the change order documents were lacking these items. However, we also noted some commendable features in the files we reviewed. Specifically, some of the Design and Construction Division files we examined contained two forms not seen in other files. These are the Change Order Technical Justification and Change Order Negotiation Summary. We considered these two forms noteworthy because they provided the documentation and control for effectively administering CCOs.

The Change Order Technical Justification form requires (1) a description of the change, (2) reason for the change, (3) alternatives considered, and (4) the impact of not incorporating the change. The Change Order Negotiation Summary is a simple form providing a narrative of the discussions with the contractor to document the negotiated increase or decrease in the contract price and any potential time impacts of the change order on the work schedule. In our opinion, the other Department divisions should also use these forms to ensure that their project management staff properly document the reasons for change and the cost and/or time impact of the change according to the Department Contract Change Order Procedure.

CONCLUSION

Our review of 13 construction projects for which Contract Change Orders were necessary revealed some noncompliances with the Department of Public Works' procedures for CCOs for 9 of the projects. In addition, we found that the Department of Public Works should have anticipated the work involved in 17 change order items (approximately 24 percent of the total CCO costs) in our audit sample. By emphasizing the need for compliance with its Contract Change Order Procedure and thorough reviews of plans and specifications and by adopting throughout the Department the two standard change order forms the Design and Construction Division uses, the Department will have added assurance of compliance with its procedures, and the accuracy of engineers' estimates may improve.

RECOMMENDATIONS

We recommend that the Department of Public Works take the following actions:

Recommendation #3

Formally communicate to its staff the need for compliance with the Department's Contract Change Order Procedure. (Priority 3)

Recommendation #4

Provide additional procedures to help ensure that its staff thoroughly review plans and specifications and other contract documents in order to avoid Contract Change Orders that the Department should have anticipated. (Priority 3)

Recommendation #5

Adopt throughout the Department the two standard change order forms the Design and Construction Division uses. (Priority 3)

Recommendation #6

Establish a system to monitor compliance with the Department's Contract Change Order Procedure. (Priority 3)